

Package ‘ARDECO’

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Type Package

Title Annual Regional Database of the European Commission (ARDECO)

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Description A set of functions to access the 'ARDECO' (Annual Regional Database of the European Commission) data directly from the official ARDECO public repository through the exploitation of the 'ARDECO' APIs.

The APIs are completely transparent to the user and the provided functions provide a direct access to the 'ARDECO' data.

The 'ARDECO' database is a collection of variables related to demography, employment, labour market, domestic product, capital formation.

Each variable can be exposed in one or more units of measure as well as refers to total values plus economic sectors.

The description of the 'ARDECO' database can be found at the following URL <<https://urban.jrc.ec.europa.eu/ardeco>>.

Depends R (>= 4.2.0),

Imports httr, ghql, rjstat, jsonlite, dplyr, tidyr

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 ARDECO packages

ARDECO packages

Description

This package provide a set of functions to access the ARDECO data directly from the official ARDECO public repository through the exploitation of the ARDECO API. The API are completely transparent to the user and the provided functions provide a direct access to the ARDECO data. The ARDECO (Annual Regional Database of the European Commission) database is a collection of variables related to demography, employment, labour market, domestic product, capital formation. Each variable can be exposed in one or more units of measure as well as refers to total values plus economic sectors (NACE sectors as defined by EUROSTAT) The description of the ARDECO database can be found at the following URL <https://urban.jrc.ec.europa.eu/ardecos>

The exposed funtions

This package provides three functions which are linked between them and have to be used in the following way.

- **ardecos_get_variable_list** - to recover the list of the available variables with related description.
- **ardecos_get_dataset_list** - After having identified the variable of interest, it's possible to identify the list of datasets included into the variable of interest. This list of datasets is recovered by using `ardecos_get_dataset_list` with the variable code of interest.
- **ardecos_get_dataset_data** - To recover the data related to a variable it's possible to do it by using just the variable code (recovering all variable data) or filtering it using unit, sector (recovered by `ardecos_get_dataset_list`) and/or nuts version, nuts code, year and level.

Examples

```
ardecos_get_variable_list()
ardecos_get_dataset_list('SNPTN')
ardecos_get_dataset_data('SNETD', version=2021, level=0, nutscode='IT', year=2020)
```

 ardecos_get_dataset_data

ardecos_get_dataset_data

Description

The function recover the data via API of the dataset specified in input applying the optional filters and return the list of data in data frame format.

Usage

```
ardecos_get_dataset_data(variable, unit, sector, version, nutscode, year, level)
```

Arguments

variable	mandatory: the code of variable
unit	optional: unit of measure. If not defined, return all units data
sector	optional: reference sector. If not defined, return all sectors data
version	optional: filter data for inserted nuts version. It can be composed as a set of values (see details). If not defined, return data for all available nuts versions
nutscode	optional: filter data for inserted nutscode, as defined by Eurostat. It can be a regular expression refining the searching criteria (see details). If not defined, return data for all available nutscode
year	optional: filter data for inserted year. It can be composed as a set of values (see details). If not defined, return data for all available year
level	optional: filter data for inserted levels. It can be composed as a set of values (see details). If not defined, return data for all available levels

Details

Optional parameters can be inserted using a special notation increasing the filtering options.

FILTERING OPTION FOR PARAMETER **nutscode**

It can be a simple string. In this case the function return all nuts codes including the inserted string.

For example: **nutscode='EE'** return the values having into the nuts code the string 'EE', i.e. all the nuts codes starting with 'EE' but also the nutscodes like 'DEE...'

It's possible to require the values with the nuts codes starting with a specific string, inserting the character '^' at the beginning of the filter.

For example: **nutscode='^EE'** return the values with nuts code starting with 'EE'

In addition it's possible to require values with nuts codes satisfying multiple conditions, using the character '|' to separate the different conditions.

For example: **nutscode='^EE|^IT'** return only the nuts codes related starting with 'EE' or 'IT', i.e. return all values for Estonia and Italy.

FILTERING OPTION FOR PARAMETERS **version year level**

The parameters **version**, **year** and **level** are numeric parameters.

A numeric parameter can have a simple value. In this case the function return the values in which the specific parameter is EQUAL to the inserted value.

For example: **level=0** return the values at NUTS0 level.

To filter data for one value to another, it can be defined using this notation: **c(min:max)** where min and max are the minimum and maximum values.

For example: **year=c(2000:2005)** return the values for the years starting from 2000 to 2005.

It's also possible to combine the two notations in this way: **year=c(2005, 2008:2010)** return the values for the year 2005 and for the year from 2008 and 2010.

Value

This function return a data frame including the data related to the selected dataset. The data frame include the following fields:

- variable: code of the variable
- sector: sector of referenc of the value.
- unit: unit of measure of the value.
- version: nuts version of NUTS code.
- level: level of NUTS code. From 0 to 3 represent NUTS0-3 level; 4 refers to Metropolitan regions, 9 refers data at EU level.
- nutscode: code of the territorial unit of reference. It's one of the NUTS code (see EURO-STAT)
- year: year of reference of the value.
- value: value of the selected variable related to the date, sector, territory_id, unit, variable

Examples

```
ardeco_get_dataset_data('SNPTN', version=2021, level=0, nutscode='IT', year=2020)
ardeco_get_dataset_data('SNETD', version=2021, level=c(0:1,9), nutscode='^IT|^EU')
```

```
ardeco_get_dataset_list
      ardeco_get_dataset_list
```

Description

The function return the list of dataset linked to a variable through the ARDECO API by defining the variable code. For each dataset it's returned the code of variable, the unit of measure, the sector of reference and nuts version for which data is available.

Usage

```
ardeco_get_dataset_list(var_code)
```

Arguments

var_code one of the code returned by ardeco_get_variable_list()

Value

The set of datasets related to the selected variable. Each dataset is described by: - dt_var: variable code - dt_unit: unit of measure - dt_sector: reference sector - dt_version: available nuts version

Examples

```
ardeco_get_dataset_list('SNPTN')
```

ardeco_get_variable_list
ardeco_get_variable_list

Description

This function return the list of all available ARDECO variable recovered through the ARDECO API. The function returns the list of code and description of each variable. Code will be used to recover the list of datasets and also the data of a variable.

Usage

```
ardeco_get_variable_list()
```

Details

return the list of the available variables exposed by ARDECO database

Value

This function returns the list of the code and the description of each available variables. The code have to be used in the next functions to recover the datasets and the data values

Examples

```
ardeco_get_variable_list()
```

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